

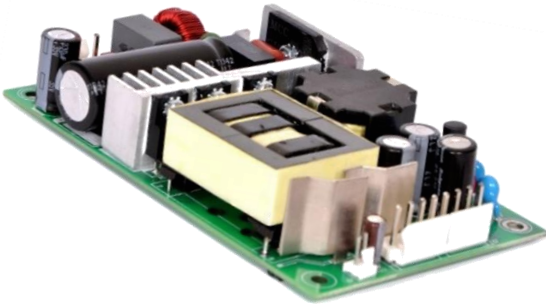
ABC350 Series

Low Profile Open Frame Power Supplies

The ABC350 Series of open frame power supplies feature a wide universal AC input range of 90 – 264 VAC, offering 350 W of output power in a compact 3 x 5 x 1 inch footprint, with a variety of isolated single output voltages.

The high efficiency and high power density of the ABC family ensures minimal power loss in end-use equipment, thereby facilitating higher reliability, easier thermal management and meets regulatory approvals for environmentally-friendly end products.

These power supplies are ideal for telecom, datacom, industrial equipment and other applications.



Key Features & Benefits

- 3 x 5 x 1 Inch Form Factor
- 350 W with Forced Air Cooling & 200 W with Convection Cooling
- Efficiencies up to 94%
- -40 to 70°C Operating Temperature
- 12 V / 0.5 A Fan Output, Thermal Shut-Down Feature
- 2.56 Million Hours, Telcordia -SR332-Issue 3 MTBF
- Standby Power < 0.5 W
- Approved to EN60950-1
- RoHS Compliant

Applications

- Instrumentation
- Lighting
- Industrial Applications
- Applied Computing
- Renewable Energy
- Test and Measurement
- Automation Control
- Wireless Communication



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1. MODEL SELECTION

| MODEL NUMBER | DESCRIPTION | VOLTAGE | MAX. LOAD (CONVECTION) | MAX. LOAD (375 LFM) | MIN. LOAD | RIPPLE & NOISE ¹ |
|---------------|---------------------------|---------|---------------------------|------------------------|-----------|-----------------------------|
| ABC350-1T12L | Screw Terminal | 12 V | 15 A | 25 A | 0.0 A | 1% |
| ABC350-1012L | Molex Connector | | | 18.75 A | | |
| ABC350-1T15L | Screw Terminal | 15 V | 12 A | 21.67 A | 0.0 A | 1% |
| ABC350-1015L | Molex Connector | | | 18. A | | |
| ABC350-1T24L | Screw Terminal | 24 V | 8.33 A | 14.60 A | 0.0 A | 1% |
| ABC350-1024L | Molex Connector | | | | | |
| ABC350-1T30L | Screw Terminal | 30 V | 6.67 A | 11.67 A | 0.0 A | 1% |
| ABC350-1030L | Molex Connector | | | | | |
| ABC350-1T48L | Screw Terminal | 48 V | 4.17 A | 7.30 A | 0.0 A | 1% |
| ABC350-1048L | Molex Connector | | | | | |
| ABC350-1T58L | Screw Terminal | 58 V | 3.45 A | 6.04 A | 0.0 A | 1% |
| ABC350-1058L | Molex Connector | | | | | |
| COVER-350-XBC | metal cover kit accessory | | | | | |

NOTES:

1. Ripple is peak to peak with 20 MHz bandwidth and 10 μ F (Tantalum capacitor) in parallel with a 0.1 μ F capacitor at rated line voltage and load ranges.
2. Combined output power of main output, fan supply shall not exceed max. power rating.
3. Fan supply output voltage tolerance including set point accuracy, line and load regulation is +/-10% and ripple and noise is less than 10%.
4. Thermal shutdown feature: The power supply goes in hiccup mode when the temperature of PCB exceeds 110 °C (+/-10 °C).
5. Output ripple can be more than 10% of the output voltage.

2. INPUT SPECIFICATIONS

Specifications are for nominal input voltage, 25°C unless otherwise stated.

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|---------------------|---|-----------------------------|
| Input Voltage | Universal (Derate from 100% at 100 VAC to 90% at 90 VAC) | 90-264 VAC / 390 VDC |
| Input Frequency | | 47 - 63 Hz |
| Input Current | 115 VAC: 230 VAC: | 3.6 A max. 1.8 A max. |
| No Load Power | Typical | >0.5 W |
| Inrush Current | 115 VAC: 230 VAC: 264 VAC: | 25 A 45 A 75 A |
| Leakage Current | Typical | 300 μ A |
| Power Factor | Full Load | >0.95 |
| Switching Frequency | PFC: PWM: | 70 - 130 KHz 50 - 80 KHz |

3. OUTPUT SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|--------------------------|--|----------------------|
| Output Power | With 375 LFM: | 350 W |
| | Convection: | 200 W |
| Efficiency | 48 V, 58 V: | 94% |
| | 24 V, 30 V: | 93% |
| | 12 V, 15 V: | 92% |
| Hold-up Time | Full Load: | 8 ms typical |
| | Convection Load: | 14 ms typical |
| Line Regulation | | +/-0.5% |
| Load Regulation | | +/-1% |
| Transient Response | 50-100% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50 Hz = 5% , | recovery time < 5 ms |
| Voltage Adjustment | | +/-3% |
| Rise Time | Typical | 55 ms |
| Set Point Tolerance | | +/-1% |
| Over Current Protection | Hiccup mode / Auto Recovery | >110% |
| Over Voltage Protection | Hiccup mode / Auto Recovery | 110 to 140% |
| Short Circuit Protection | Hiccup mode / Auto Recovery | |

4. ENVIRONMENTAL SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|-----------------------|---|--------------------|
| Operating Temperature | Startup guaranteed, with spec deviation, see Fig. 1 | -40 to +70°C |
| | | -40 to 0°C |
| Storage Temperature | | -40 to 85° C |
| Cooling | With 375 LFM forced air cooling at 100 to 264 VAC: | 350 W |
| | With natural convection cooling at 100 to 264 VAC: | 200 W |
| Altitude | Operating: | 16,000 ft. |
| | Non-operating: | 40,000 ft. |
| Humidity | Non Condensing | 5% to 95% |
| Reliability | MTBF according to Telcordia - SR332-Issue 3 | 2.56 million hours |

5. EMC SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|-------------------------|---|---------------|
| Conducted Emissions | EN55022-B, CISPR22-B, FCC PART15 – B | |
| Static Discharge | EN61000-4-2: | Level-3 |
| RF Field Susceptibility | EN61000-4-3: | Level-3 |
| Fast Transients/Bursts | EN61000-4-4: | Level-3 |
| Radiated Emissions | Radiated: | Level A |
| | Radiated with external core: (King core K5B RC 25x12x15-M in input cable with 5 Turns) | Level B |
| Surge Susceptibility | EN61000-4-5: | Level-3 |
| Harmonic Current | EN61000-3-2: | Class D |
| AC Flicker | EN61000-3-3: | Pass |

6. SAFETY SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|-------------------|--|----------------------|
| Isolation Voltage | Input to Output: for ITE application Input to GND: | 3000 VAC 1500 VAC |
| Safety Standards | Approved to the latest edition of the following standards: CSA/UL60950-1, EN60950-1 and IEC60950-1, Class1 SELV | |
| Agency Approvals | Nemko, UL, C-UL | |
| CE mark | Complies with LVD Directive | |

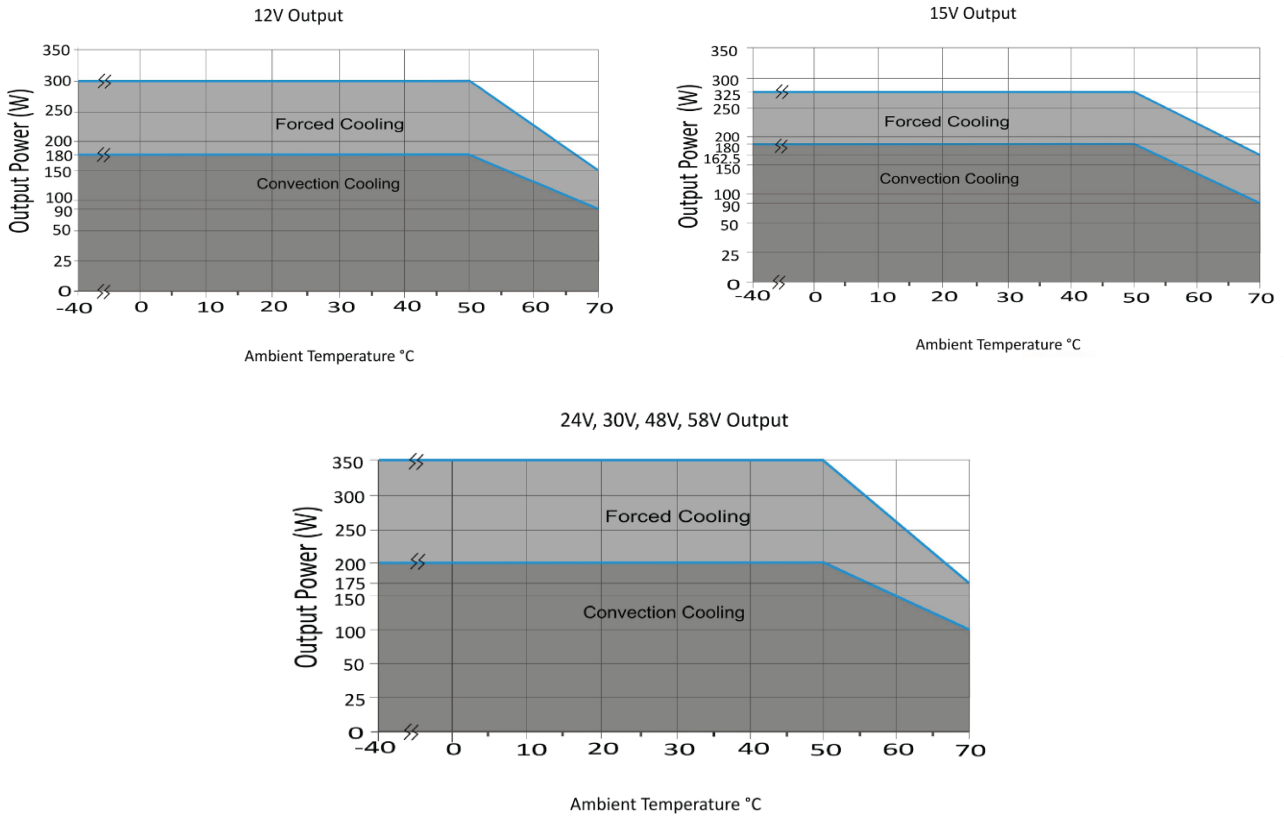


Figure 1. Derating Curves

7. CONNECTOR & PIN DESCRIPTION

| CONNECTOR | PIN | DESCRIPTION / CONDITION | MANUFACTURER / PN |
|---------------------|-----|---|--|
| AC Input Connector | J1 | Pin 1 AC Line Pin 2 Not Fitted Pin 3 AC Neutral | Molex: 26-60-4030 Mating: 09-50-3031; Pins: 08-50-0106 |
| DC Output Connector | J2 | Screw Terminal (Option 1) Pin 1 V1 +VE Pin 2 V1 - VE | 6-32 inches Screw Pan HD Mating: 16 AWG wire crimped to Ring Tongue Terminal AMP: 8-31886-1 |
| | | Molex Connector (Option 2) Pin 1,2,3,4 V1 +VE Pin 5,6,7,8 V1 - VE | Molex: 26-60-4080 Mating: 09-50-3081; Pins: 08-50-0106 |
| Aux (Fan) Output | J3 | Pin 1 FAN +VE Pin 2 FAN -VE | AMP :640456-2 Mating: 640440-2 |
| Earth | J4 | | Molex: 19705-4301 Mating: 19003-0001 |

8. MECHANICAL SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION |
|------------|---|
| Weight | 300 g |
| Dimensions | 76.2 x 127.0 x 25.4 mm (3 x 5 x 1 inch) |

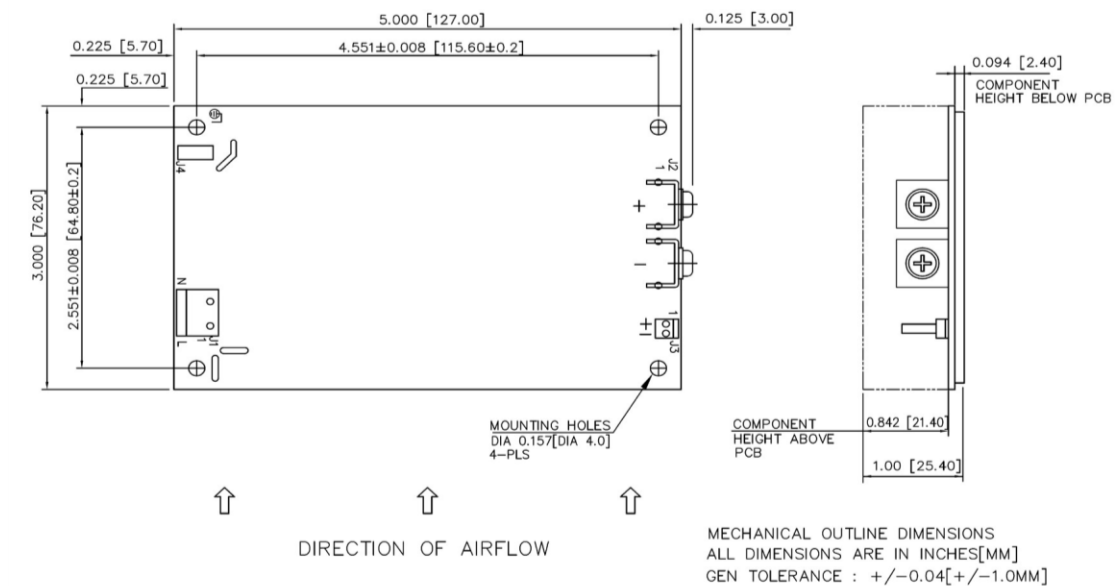


Figure 2. Mechanical Drawing - Screw Terminal (Option 1)

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